

CLAIM AMENDMENTS

1. (Currently Amended) A non-monolithic ring laser cavity comprising:
 - a. a gain medium;
 - b. a first polarisation rotation element arranged to rotate the polarisation of light propagating in the cavity with a predetermined handedness irrespective of the direction of propagation of the light;
 - c. a second polarisation rotation element arranged to rotate the polarisation of light propagating in the cavity with a handedness which is dependent upon the direction of propagation of the light;
 - d. a polarisation selection element arranged to cause loss to light propagating in the cavity, the loss being determined by the polarisation of light incident upon the polarisation selection element;

wherein the polarisation selection element comprises at least one mirror of the cavity spaced away from the gain medium and arranged to reflect light at an angle displaced from the normal of the at least one mirror such that the reflectivity of the at least one mirror is sufficiently polarisation dependent that the laser oscillates uni-directionally.

2. (Original) A ring laser cavity according to claim 1, wherein the cavity comprises three or more mirrors.

3. (Previously Presented) A ring laser cavity according to claim 1, wherein the cavity comprises four or more mirrors.

4. (Currently Amended) A ring laser cavity according to claim 3, wherein the first polarisation rotation element comprises one mirror of the cavity located such that the point of reflection of the beam is out of ~~the plane~~ a plane defined by the points of reflection of three of the other mirrors.

5. (Previously Presented) A ring laser cavity according to claim 1, wherein the second polarisation rotation element comprises a Faraday rotator.

6. (Currently Amended) A ring laser cavity according to claim 1, wherein ~~the angle of reflection of the~~ at least one ~~angled mirror~~ is arranged to reflect light at an angle of reflection greater than 25 degrees from the normal of that mirror.

7. (Currently Amended) A ring laser cavity according to claim 6, wherein the angle of reflection ~~of the at least one angled mirror~~ is between 40 and 55 degrees.

8. (Currently Amended) A ring laser cavity according to claim 7, wherein the angle of reflection ~~of the at least one angled mirror~~ is greater than 55 degrees.

9. (Currently Amended) A ring laser cavity according to claim 1, wherein the at least one ~~angled~~ mirror comprises two mirrors arranged to reflect light at an angle displaced from the normal such that the cumulative reflectivity of the two mirrors is sufficiently polarisation dependent that the laser oscillates uni-directionally.

10. (Currently Amended) A ring laser cavity according to claim 1, wherein one of the mirrors is concave, and is arranged to reflect light at less than 8 degrees from the normal of said mirror.

11. (Currently Amended) A ring laser cavity according to claim 10, wherein the concave mirror is arranged to reflect light at less than 4 degrees from the normal of said mirror.

12. (Previously Presented) A ring laser cavity according to claim 1, wherein the cavity further includes a frequency doubling element arranged to double the frequency of light generated by the laser gain medium.

13. (Original) A ring laser cavity according to claim 12, wherein the frequency doubling element comprises a crystal of Potassium Titanyl Phosphate.

14. (Previously Presented) A ring laser cavity according to claim 1, wherein the gain medium is excited by light generated by one or more semiconductor devices.

15. (Original) A ring laser cavity according to claim 14, wherein the light generated by the one or more semiconductor devices is directed into the gain medium such that it has an absorption profile in the gain medium which substantially corresponds to the profile of the laser mode in the gain medium.

16. (Original) A ring laser cavity according to claim 14, wherein the one or more semiconductor devices is arranged to direct light into the gain medium by illumination from the sides of the gain medium.

17. (Previously Presented) A ring laser cavity according to claim 1, wherein the gain medium comprises a crystal of Yttrium Aluminium Garnet (YAG) doped with a suitable element.

18. (Previously Presented) A ring laser cavity according to claim 1, wherein at least two mirrors are spaced away from the gain medium.

19. (Original) A ring laser cavity according to claim 18, wherein at least three mirrors are spaced away from the gain medium.

20. (Canceled)

21. (New) A ring laser cavity according to claim 1, wherein the difference in optical loss upon reflection for s-polarised light and p-polarised light at least one mirror is between one percent and three percent.